

Claims

1. A device (10; 110) for clamping a workpiece (50, 50a, 50b, 50c 50d; 150d) on a rotatably drivable longitudinal axis having:
 - a tensioning spindle (12; 112)
 - a counter-holder (14; 114) and
 - a carrier,at least the tensioning spindle (12; 112) being mounted such that it is rotatable about the longitudinal axis (A), and the carrier being fixed to the tensioning spindle (12; 112) and, when the workpiece (50, 50a, 50b, 50c, 50d; 150d) is clamped between the tensioning spindle (12; 112) and the counter-holder (14; 114), being capable of being brought into engagement with the workpiece (50, 50a, 50b, 50c, 50d; 150d) in such a way that it transmits a rotary movement of the tensioning spindle (12; 112) to the workpiece (50, 50a, 50b, 50c, 50d; 150d),
characterised in that the carrier has a spring element (30; 130) which can be coupled to the workpiece (50, 50a, 50b, 50c, 50d; 150d) under prestress to transmit a torque.
2. A device (10; 110) according to Claim 1, characterised in that the spring element comprises a leaf spring (30; 130) which, at one end, is fixed to the tensioning spindle (12; 112) and, at its free end, is constructed with an engagement element (36; 136), the engagement element (36; 136) being capable of deflection and of being brought into torsion-resistant engagement with the workpiece (50, 50a, 50b, 50c, 50d; 150d).

3. A device (10; 110) according to Claim 2, characterised in that the leaf spring (30; 130) is received and fixed with form fit in a radial or axial cutout (28; 128) in the tensioning spindle (12; 112).

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4. A device (10; 110) according to Claim 2 or 3, characterised in that the leaf spring (30; 130) has a width (B, b) which is a multiple of the height (H).

10 5. A device (10) according to one of Claims 2 to 4, characterised in that the leaf spring (30) tapers in the axial direction.

15 6. A device (10) according to one of Claims 2 to 5, characterised in that the engagement element (36) tapers.

7. A device (10; 110) according to Claim 6, characterised in that the engagement element (10; 110) is constructed in the form of a multi-stepped cone (38; 40), the cone angles 20 (α , β) increasing with the increasing spacing from the free end of the leaf spring (30; 130).

8. A device according to Claim 1, characterised in that the spring element comprises a pressure spring which, at 25 its free end, is constructed with an engagement body.

9. A device according to Claim 8, characterised in that the pressure spring and the engagement body are at least partially received in a receiving bore in the tensioning 30 spindle or the counter-holder and are displaceable in said receiving bore with compression of the pressure spring.

10. A device (110) according to one of the preceding claims, characterised in that the spring element (130) can be deflected in the axial direction.
- 5 11. A device (10) according to one of Claims 1 to 9, characterised in that the spring element (30) can be deflected in the radial direction.
- 10 12. A device (10; 110) according to one of the preceding claims, characterised in that the tensioning spindle (12; 112) and/or the counter-holder (14; 114) each have a centring cone.
- 15 13. A device (10; 110) according to Claim 12, characterised in that the centring cone has a centring cone angle in the range between 45° and 75°, preferably between 55° and 65°, particularly preferably of 60°.
- 20 14. A device (10; 110) according to one of the preceding claims, characterised in that the counter-holder (14; 114) can be displaced and fixed in the axial direction.
- 25 15. A device (10; 110) according to one of the preceding claims, characterised by an adapter element (58; 158) which is constructed to be fixed to the workpiece (50, 50a, 50b, 50c, 50d; 150d) and which cooperates with the tensioning spindle (12; 112) to clamp the workpiece (50, 50a, 50b, 50c, 50d; 150d).
- 30 16. A device (10; 110) according to Claim 15, characterised in that the adapter element (58; 158) has an engagement groove (70; 170) which can be brought into

torque-transmitting engagement with the engagement element (36; 136) or engagement body.

17. A device according to Claim 15 or 16, characterised in
5 that, at its outer circumference, the adapter element (58;
158) is constructed with a gripper channel (68; 168) in
which an external gripper can engage to transport the
adapter element (58; 158).